Exhibit A

Contents of file index.html:

```
<html>
<head>
<title>Loading New Search Engine: Copyright 2002 Alan Swahn. All Rights Reserved.</title>
<META NAME="copyright" CONTENT="Copyright 2002 Alan Swahn. All Rights Reserved.">
<META HTTP-EQUIV="Window-target" CONTENT="_top">
<META NAME="keywords" CONTENT="Website Based Search Engine">
<META NAME="description" CONTENT="New Ideas in Searcing the Internet">
<Meta HTTP-EQUIV="content-type" content="text/html; charset=windows-1252">
<META HTTP-EQUIV="content-language" CONTENT="en-US">
<META NAME="author" CONTENT="Alan Swahn">
<script type="text/javascript" src="engine.js"></script>
</head>

<body scroll='no' onLoad='onloadpage()' onError='onerrorpage()' onAbort='onabortpage()' onBeforeUnload='onbeforeunloadpage()' onUnload='onunloadpage()'>

<IFRAME id='g1' name='g1'  SECURITY='unrestricted' HSPACE='0' VSPACE='0' ALIGN='top' SCROLLING='auto'  FRAMEBORDER='0'
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```

```
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```
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<button id='btest'    STYLE='background:#000000;  width:5%;' TITLE="Test on/off"              onclick="test()">Z</button>

<button id='badd2fav'  STYLE='background:#00FF00;  width:4%;' TITLE="Add to IE Favorites"     onclick="add2favorites()"
        ondblclick="add2favorites()"               >Add</button>
<button id='bjumpurl'  STYLE='background:#00FF00;  width:4%;' TITLE="Jump to Website"        onclick="jumpurl()"            ondblclick="jumpurl()"
                >Jmp</button>
<button id='bzoomup'   STYLE='background:#00FF00;  width:4%;' TITLE="Zoom Page by 120%"     onclick="zoomup()"            ondblclick="zoomup()"
                onmousewheel="zoomwheel()" >Zup</button>
<button id='bzoomdown' STYLE='background:#00FF00;  width:4%;' TITLE="Zoom Page by -120%"     onclick="zoomdown()"
        ondblclick="zoomdown()"              onmousewheel="zoomwheel()" >Zdn</button>
<button id='bndisplay' STYLE='background:#00FF00;  width:4%;' TITLE="Multiple Display Select" onclick="setndisplay()"
        ondblclick="setndisplay()"            >nDsp</button>
<button id='bfind'    STYLE='background:#00FF00;  width:4%;' TITLE="Find WebSites"        onclick="findtext()"          ondblclick="findtext()"
           >Find</button>

<INPUT  id='isubject'     STYLE='position:absolute; left:33%; width:30%; background:#FFFFFF;' TYPE='text' VALUE="" SIZE="" TITLE="WebSite Topic to
Find">
```

```
<Select id='iln' name='iln' STYLE='position:absolute; left:63%; width:5%;  background:#FFFFFF;' ><option value='50' selected>50<option value='40'>40<option value='30'>30<option value='20'>20<option value='10'>10</Select>

<button id='bsearch'  STYLE='position:absolute; left:68%;  width:5%; background:#00FF00;' TITLE="Search for WebSites"        onclick="getnewlinks()"
ondblclick="getnewlinks()" >Search</button>
<button id='bremove'  STYLE='position:absolute; left:73%;  width:7%; background:#00FF00;' TITLE="Remove WebSite from List"    onclick="removelink()"
ondblclick="removelink()" >Remove</button>
<button id='bfirst'   STYLE='position:absolute; left:80%;  width:5%; background:#00FF00;' TITLE="Display First WebSite Found" onclick="first()"
ondblclick="first()"      >First</button>
<button id='blast'    STYLE='position:absolute; left:85%;  width:5%; background:#00FF00;' TITLE="Display Last WebSite Found"  onclick="last()"
ondblclick="last()"       >Last </button>
<button id='bback'    STYLE='position:absolute; left:90%;  width:5%; background:#00FF00;' TITLE="Go Back 1 WebSite"          onclick="back()"
ondblclick="back()"       >Back </button>
<button id='bnext'    STYLE='position:absolute; left:95%;  width:5%; background:#00FF00;' TITLE="Go Forward 1 WebSite"       onclick="next()"
ondblclick="next()"       >Next </button>
<BGSOUND id='audio'   SRC=" VOLUME='0' BALANCE='0' LOOP='0' HIDDEN='true'>
</DIV>

<APPLET ID='getlinks' NAME='getlinks' ALIGN='right' CODE='engine.class' VSPACE='0' HSPACE='0' WIDTH='0' HEIGHT='0' STYLE='position:relative; z-index:0; visibility:hidden;' MAYSCRIPT></APPLET>

</body>
</html>
```

Contents of file engine.js:

```javascript
//Globals
var links = new Array();  //storage for web addresses
var linkcount = 0;       //running link count
var maxlinkcnt = 0;     //max links found on subject returned by engine.class
var eIDArray = new
Array("gx","g1","g2","g3","g4","g5","g6","g7","g8","g9","g10","g11","g12","g13","g14","g15","g16","g17","g18","g19","g20","g21","g22","g23","g24","g25","g26","g27","g28","g29","g30","g31","g32","g33","g34","g35","g36","g37","g38","g39","g40","g41","g42","g43","g44","g45","g46","g47","g48","g49","g50");
//iFrame IDs
var try2loadlink = new Array();
var bottomofstack = 1;
var displaycnt = 1;
var maxiframecount = 50;
var testing = false;
var defaulttitle = "Website Based Search Engine version 6.0 by Alan Swahn";
//if (! eval("navigator.javaEnabled()")){alert("Please Enable Java on Your Computer to Use This Program");}
window.moveTo(0,0);
window.resizeTo(screen.availWidth,screen.availHeight);
var n = (document.layers) ? true:false;
var ie = (document.all) ? true:false;
//if(! ie){alert("Internet Explorer 6.0 Required"); top.window.close();}
//********End Globals***********
//----------------------------------------------

//Redefine Events
//----------------------------------------------
var catch_onblur=true;
function swallowonblur(){ //uses attach, detach methods
        if(catch_onblur){
                if(testing){alert(window.event.srcElement.id + " onblur event trapped: " + window.event.type);}
                //colortrack('bmodal');
                return null;
                }
}
```

```
//------------------------------------------------
var catch_onerrorupdate=true;
function swallowonerrorupdate(){ //uses attach, detach methods
        if(catch_onerrorupdate){
                if(testing){alert(window.event.srcElement.id + " onerrorupdate event trapped: " + window.event.type);}
                document.getElementById(eIDArray[linkcount]).focus();
                return null;
                }
}


//------------------------------------------------
var catch_onerror=true;
function swallowonerror(){ //uses attach, detach methods
        if(catch_onerror){
                if(testing){alert(" onerror event trapped");}
                document.getElementById(eIDArray[linkcount]).focus();
                return null;
                }
}
//End Redefine Events
//------------------------------------------------

//Redefine Methods
//------------------------------------------------

//oldshowModalDialog is an equavlent Object to showModalDialog
//oldshowModalDialog must be defined before showModalDialog is redefined
var oldshowModalDialog=showModalDialog;
var catch_showModalDialog=true;

function swallowshowModalDialog(xurl,xarguments,xfeatures){

        if(catch_showModalDialog){
                if(testing){alert("Caught showModalDialog Method: " + event.type);}
```

```
                    //colortrack('bmodal');
                    document.getElementById(eIDArray[linkcount]).focus();
                    return null; //equivalent to clicking X out
                    }
            else{
                    return oldshowModalDialog(xurl,xarguments,xfeatures); //pass arguments to original function
                    }
}//end swallowshowModalDialog

//a call to showModalDialog event will now call swallowshowModalDialog instead
eval('function showModalDialog(xurl,xarguments,xfeatures){return swallowshowModalDialog(xurl,xarguments,xfeatures);}');


//-----------------------------------------------


//oldshowModelessDialog is an equavlent Object to showModelessDialog
//oldshowModelessDialog must be defined before showModelessDialog is redefined
var oldshowModelessDialog=showModelessDialog;
var catch_showModelessDialog=true;

function swallowshowModelessDialog(xurl,xarguments,xfeatures){

        if(catch_showModelessDialog){
                if(testing){alert("Caught showModelessDialog Method: " + event.type);}
                //colortrack('bmodeless');
                document.getElementById(eIDArray[linkcount]).focus();
                return null; //equivalent to clicking X out
                }
        else{
                return oldshowModelessDialog(xurl,xarguments,xfeatures); //pass arguments to original function
                }
}//end swallowshowModelessDialog

//a call to showModelessDialog will now call swallowshowModelessDialog instead
eval('function showModelessDialog(xurl,xarguments,xfeatures){return swallowshowModelessDialog(xurl,xarguments,xfeatures);}');
```

```
//-------------------------------------------------

//oldshowHelp is an equavlent Object to showHelp
//oldshowHelp must be defined before showHelp is redefined
var oldshowHelp=showHelp;
var catch_showHelp=true;

function swallowshowHelp(xurl,xcontext){
        if(catch_showHelp){
                if(testing){alert("Caught showHelp Method: " + event.type);}
                //colortrack('bhelp');
                document.getElementById(eIDArray[linkcount]).focus(); //event handler attached to window
                window.event.returnvalue=false;
                return; //no return value from this function
                }
        else{
                return oldshowHelp(xurl,xcontext);
                }
}//end swallowshowHelp

//a call to showHelp will now call swallowshowHelp instead
eval('function showHelp(xurl,xcontext){return swallowshowHelp(xurl,xcontext);}');

//-----------------------------------------------

var oldcreatePopup=window.createPopup; //must be outside swallowcreatePopup()
var catch_createPopup=true;

function swallowcreatePopup(xarguments){
alert("popup triggered");
        if(catch_createPopup){
                if(testing){alert("Caught createPopup Method: " + event.type);}
                //colortrack('bpopup');
                document.getElementById(eIDArray[linkcount]).focus(); //event handler attached to window
                return null;
```

```
                }
        else{
                return oldcreatePopup(xarguments);
                }
}//end swallowcreatePopup

//a call to createPopup will now call swallowcreatePopup instead
eval('function createPopup(xarguments){return swallowcreatePopup(xarguments);}');

//-----------------------------------------------
var oldConfirm=confirm;
var catch_confirm=true;

function swallowconfirm(xtext){
        if(catch_confirm){
                if(testing){alert("Caught confirm method: " + event.type);}
                //colortrack('bconfirm');
                document.getElementById(eIDArray[linkcount]).focus(); //event handler attached to window
                return null; //only true or false are valid returns
                }
        else{
                return oldConfirm(xtext);
                }
        }//end swallowconfirm

// a call to Confirm will now call swallowconfirm instead
eval('function confirm(xtext){return swallowconfirm(xtext);}');

//-----------------------------------------------

var oldPrompt=prompt;
var catch_prompt=true;
var returnstring = "";

function swallowprompt(xtext,defaultvalue){
```

```javascript
        if(catch_prompt){
                if(testing){alert("caught prompt method: " + event.type);}
                //colortrack('bprompt');
                document.getElementById(eIDArray[linkcount]).focus(); //event handler attached to window
                return returnstring; //string or integer of user response allowed as return values
                }
        else{
                return oldPrompt(xtext,defaultvalue);
                }
        }//end swallowprompt

//a call to Prompt will now call swallowprompt instead
eval('function prompt(xtext,defaultvalue){return swallowprompt(xtext,defaultvalue);}');


//-----------------------------------------------

var oldAlert=alert;
var catch_alert=false;

function swallowalert(xtext){

        if(catch_alert){
                if(testing){window.status="caught alert method: " + event.type;}
                //colortrack('balert');
                document.getElementById(eIDArray[linkcount]).focus(); //event handler attached to window
                return null;
                }
        else{
                return oldAlert(xtext);
                }
        }//end swallowalert

//a call to Alert event will now call swallowalert instead
eval('function alert(xtext){return swallowalert(xtext);}');
```

```
//-----------------------------------------------

var oldOpen=open;
var catch_open=true;
var counter=0;

function xswallowopen(xurl,xtargetname,xfeatures,xreplace){
counter++;
        if(catch_open){
                window.status="caught open method count: " + counter;
                //colortrack('bopen');
                document.getElementById(eIDArray[linkcount]).focus(); //event handler attached to window
                return null;
                }
        else{
                return oldOpen(xurl,xtargetname,xfeatures,xreplace);
                }
        }//end swallowopen

//a call to open will now call swallowopen instead
//eval('function open(xurl,xtargetname,xfeatures,xreplace){return swallowopen(xurl,xtargetname,xfeatures,xreplace);}');

//-----------------------------------------------

var oldsetTimeout=setTimeout;
var catch_setTimeout=true;

function swallowsetTimeout(xcode,xmilliseconds,xlanguage){
        if(catch_setTimeout){
                if(testing){alert("caught setTimeout window event: " + event.type);}
                //colortrack('btimeout');
                document.getElementById(eIDArray[linkcount]).focus(); //event handler attached to window
                return 0; //integer identifier returned
                }
        else{
```

```
                    return oldsetTimeout(xcode,xmilliseconds,xlanguage);
                    }
          }//end swallowsetTimeout

//a call to setTimeout will now call swallowsetTimeout instead
eval('function setTimeout(xcode,xmilliseconds,xlanguage){return swallowsetTimeout(xcode,xmilliseconds,xlanguage);}');
//-----------------------------------------------

var oldsetInterval=setInterval;
var catch_setInterval=true;

function swallowsetInterval(xcode,xmilliseconds,xlanguage){
          if(catch_setInterval){
                    if(testing){alert("caught setInterval window event: " + event.type);}
                    //colortrack('binterval');
                    document.getElementById(eIDArray[linkcount]).focus(); //event handler attached to window
                    return 0; //integer identifier returned
                    }
          else{
                    return oldsetInterval(xcode,xmilliseconds,xlanguage);
                    }
          }//end swallowsetInterval

//a call to setInterval will now call swallowsetInterval instead
eval('function setInterval(xcode,xmilliseconds,xlanguage){return swallowsetInterval(xcode,xmilliseconds,xlanguage);}');
//-----------------------------------------------
//********End Redefine Methods***********
//-----------------------------------------------
//-----------------------------------------------
//-----------------------------------------------
//Function Definitions
//-----------------------------------------------

function setlinkcount(maxlinkcount) {    //called from engine to set number of links to be returned
          linkcount = 0;    //initialize link counter
```

```
        maxlinkcnt = maxlinkcount;
        initializeiframes();
        if(maxlinkcnt > maxiframecount){maxlinkcnt = maxiframecount;} //engine may return more links than can be displayed, therefore limit to what can be
displayed
}
//----------------------------------------------

function linker(fsrc) { //very dependent on engine actually returning all links associated with maxlinkcnt
        linkcount++;
        if(linkcount > maxlinkcnt){return true;} //engine is trying to provide more links than can be displayed; disregard such links
        links[linkcount] = fsrc; //index starts at 1; Load all links references returned from engine
        try2loadlink[linkcount] = false; //links are not actually loaded into iFrames yet

        if(linkcount == maxlinkcnt){ //all links references loaded
                linkcount=bottomofstack; //reset running link counter to bottom of stack
                loadcurrent();          //load first link into hidden frame
                loadnext();             //load following link
                displaycurrent();    //display first link
                }
}
//----------------------------------------------

function hidecurrent() {
        document.getElementById(eIDArray[linkcount]).style.visibility="hidden";  //make next iFrame visible
}

function displaycurrent() {
        if(linkcount <= maxlinkcnt){
                if(readystate()){ //make next iFrame visible if already loaded
                        setstatus();  //reset title and status bar
                        document.getElementById(eIDArray[linkcount]).style.visibility="visible";
                        document.getElementById(eIDArray[linkcount]).focus(); //setfocus to iFrame to fire event, ie new window will generate blur
                        }
                else{
                        loadcurrent(); //reload current frame
```

```
                    setstatus();   //reset title and status bar
                    document.getElementById(eIDArray[linkcount]).style.visibility="visible";
                    document.getElementById(eIDArray[linkcount]).focus();
                    }

        }
}//end display current
//----------------------------------------------

function loadcurrent(){
        document.getElementById(eIDArray[linkcount]).src = links[linkcount];  //load next link into frame
        try2loadlink[linkcount] = true;
}//end loadcurrent
//----------------------------------------------

function loadnext(){
        if(linkcount < maxlinkcnt){ //array guard
                document.getElementById(eIDArray[linkcount+1]).src = links[linkcount+1];  //load link into hidden frame
                try2loadlink[linkcount+1] = true;
                }
}//end loadnext
//----------------------------------------------

function next(){
        if(maxlinkcnt == 0 && isubject.value == ""){return;}
        if(maxlinkcnt == 0 && isubject.value != ""){getnewlinks(); return;}
        playsound('buttonpush.wav');

        hidecurrent();
        linkcount++; //new display position
        if(linkcount<=maxlinkcnt){
                displaycurrent();
                if(linkcount < maxlinkcnt){loadnext();}
                }
        else{
                linkcount = maxlinkcnt;     //set to last valid link
```

```
                hidecurrent();          //hide current link
                linkcount = bottomofstack; //reset running link counter to beginning
                displaycurrent();       //display first link
                }
}//end next
//-----------------------------------------------

function back(){
        if(maxlinkcnt == 0){return;}
        playsound('buttonpush.wav');
        hidecurrent();
        linkcount--; //new display position

        if(linkcount>=bottomofstack){
                displaycurrent();
                }
        else{
                linkcount = maxlinkcnt; //set to last valid link
                displaycurrent();    //display first link
                }
}//end back
//-----------------------------------------------

function first(){
        if(maxlinkcnt == 0){return;}
        playsound('buttonpush.wav');
        hidecurrent();      //hide current link
        linkcount=bottomofstack;       //reset running link counter
        displaycurrent();   //display first link
}//end first
//-----------------------------------------------

function last(){
        if(maxlinkcnt == 0){return;}
        playsound('buttonpush.wav');
```

```
        hidecurrent();        //hide current link
        linkcount = maxlinkcnt;  //reset running link counter to maximum
        displaycurrent();     //display last link
}//end last
//-----------------------------------------------

function attacheventhandlers(){
        var i;
        var rs1=false;
        var rs2=false;
        var rs3=false;
        for(i=bottomofstack; i <= maxiframecount; i++){
                rs1=document.getElementById(eIDArray[i]).attachEvent('onblur',swallowonblur);
                rs2=document.getElementById(eIDArray[i]).attachEvent('onerrorupdate',swallowonerrorupdate);
                rs3=window.attachEvent('onerror',swallowonerror);
                if(testing && (! rs1 || ! rs2 || ! rs3)){Alert("Error attaching events");}
                }
}//end attacheventhandlers
//-----------------------------------------------

function detacheventhandlers(){
        var i;
        for(i=bottomofstack; i <= maxiframecount; i++){
                document.getElementById(eIDArray[i]).detachEvent('onblur',swallowonblur);
                document.getElementById(eIDArray[i]).detachEvent('onerrorupdate',swallowonerrorupdate);
                window.detachEvent('onerror',swallowonerror); //no return value from detach
                }
}//end detacheventhandlers
//-----------------------------------------------

function initializeiframes(){ //initialize and hide all iFrames
        var i;
        window.status="New Ideas on Searching the Internet";
        window.document.title=defaulttitle;
        for(i=bottomofstack; i <= maxiframecount; i++){
```

```
                document.getElementById(eIDArray[i]).style.visibility='hidden';    //reset visibility on reload
                document.getElementById(eIDArray[i]).style.zoom='1.0';           //reset zoom on reload
                }
}//end initializeiframes
//-----------------------------------------------

function setstatus(){
        document.getElementById('bjumpurl').value = "J" + linkcount;
        window.status="New Ideas on Searching the Internet";
        window.document.title=links[linkcount];
}//end setstatus
//-----------------------------------------------

function readystate(){
        //alert("readystate: " + document.getElementById(eIDArray[linkcount]).readyState);
        //alert("try2load: " + try2loadlink[linkcount]);
        if(document.getElementById(eIDArray[linkcount]).readyState == "complete" && try2loadlink[linkcount]){
                bnext.style.backgroundColor="#00ff00";
                bback.style.backgroundColor="#00ff00";
                return true;}
        else{
                bnext.style.backgroundColor="orange";
                bback.style.backgroundColor="orange";
                return false;}
}//end readystate
//-----------------------------------------------

function getnewlinks(){
        if(isubject.value == ""){return;}              //user send empty subject, return
        document.getlinks.setsubject(isubject.value);     //document.APPLET.EngineProcedure.PassParameter
        document.getlinks.setlinkgetcount(iln.value);
        playsound('accessing.wav');
        document.getlinks.enginestart();
}//end getnewlinks
//-----------------------------------------------
```

```javascript
function jumpurl(){
        var url=window.document.title;
        if(url=="" | url==defaulttitle){return;}

        if(url.indexOf("http://") > -1){
                window.location.href = url;
                }
        else{
                window.location.href = "http://" + url;
                }
}//end jumpurl
//----------------------------------------------

function add2favorites(){
        if(window.document.title == ""){return;}
        window.external.AddFavorite(window.document.title, isubject.value);
}//end add2favorites
//----------------------------------------------

function playsound(xfile){
        document.getElementById('audio').src = xfile;
        //document.getElementById('audio').run();
}//end playsound
//----------------------------------------------

function removelink(){
        if(maxlinkcnt==1){return}; //if only 1 link left, don't remove

        for(i = linkcount; i < maxlinkcnt; i++){ //shift stack down 1 position
                document.getElementById(eIDArray[i]).visibility='hidden';
                links[i]=links[i+1]; //starting at link to be removed, drop stack by one position
                }

        //if at top of display stack then decrement linkcount and maxlinkcnt, thereby effectively remove top link
```

```
        if(linkcount==maxlinkcnt){
                hidecurrent();
                linkcount--;
                }

        maxlinkcnt--;  //lower max link count by 1

        loadcurrent();
        displaycurrent();
        loadnext();
}//end removelink
//---------------------------------------------

function findtext(){
        if(maxlinkcnt==0){return;} //Guard for open page
        window.external.NavigateAndFind(links[linkcount],isubject.value,eIDArray[linkcount]);
}//end findtext
//---------------------------------------------

function zoomup(){
        if(maxlinkcnt==0){return;}
        var zoomfactor = 1.0;
        zoomfactor = parseFloat(document.getElementById(eIDArray[linkcount]).style.zoom);
        zoomfactor = zoomfactor + 0.2;
        if(zoomfactor > 10){return;}
        document.getElementById(eIDArray[linkcount]).style.zoom = zoomfactor;
}//end zoomup
//---------------------------------------------

function zoomdown(){
        if(maxlinkcnt==0){return;}
        var zoomfactor = 1.0;
        zoomfactor = parseFloat(document.getElementById(eIDArray[linkcount]).style.zoom);
        zoomfactor=zoomfactor - 0.2;
```

```
        if(zoomfactor < 0.1){return;}
        document.getElementById(eIDArray[linkcount]).style.zoom = zoomfactor;
}//end zoomdown
//-----------------------------------------------

function zoomwheel(){
        if(maxlinkcnt==0){return;}
        if (event.wheelDelta > 0){
                zoomup();
                }
        else{
                zoomdown();
                }
}//end zoomwheel
//-----------------------------------------------

function onbeforeunloadpage() { //event handler is onbeforeunload
        //alert(window.event.type); //event doesn't bubble
        window.event.returnValue="To Stay in Search Engine, Please Hit Cancel Now."; //event is beforeunload
}
//-----------------------------------------------

function onloadpage(){
        testing=false;

        attacheventhandlers();
        window.status="Loading Page, Please Wait....";
        playsound('loading.wav');
        initializeiframes(); //initialize iFrames and hide
        document.getElementById(eIDArray[bottomofstack]).src="blank.html";
        document.getElementById(eIDArray[bottomofstack]).style.visibility='visible'; //make opening page visible
        document.getElementById(eIDArray[bottomofstack]).focus();
        if(isubject.value != ""){getnewlinks();} //if reloading and Subject is available, then re-establish links
}//end onloadpage
//-----------------------------------------------
```

```javascript
function onerrorpage(){
        playsound('explosion.wav');
        if(testing){alert("Error on Page");}
        //check??? window.onerror=null;
}//end onerrorpage
//-----------------------------------------------

function onabortpage(){
        if(testing){alert("Abort triggered--reload initiated");}
        onloadpage();
}//end onerrorpage
//-----------------------------------------------

function onunloadpage(){
        //alert("unloading event");
        playsound('goodbye.wav');

        for(i=bottomofstack; i <= maxiframecount; i++){ //clear and hide all other frames
                document.getElementById(eIDArray[i]).style.visibility='hidden';
                document.getElementById(eIDArray[i]).src = "blank.html" //load blank page into frame to clear frame
                }
        document.getElementById(eIDArray[bottomofstack]).src="splash.html";
        document.getElementById(eIDArray[bottomofstack]).focus();
        document.getElementById(eIDArray[bottomofstack]).visibility='visible'; //make opening page visible
        detacheventhandlers();
        //Engine Resources automatically deallocated
}//end onunloadpage
//-----------------------------------------------

function intervaltimerflop(){
        catch_setInterval = !catch_setInterval;

        if(catch_setInterval){
                document.getElementById('binterval').style.backgroundColor='rgb(0,255,0)';
```

```javascript
			}
		else{
				document.getElementById('binterval').style.backgroundColor='rgb(255,0,0)';
			}
}//end intervaltimerflop
//---------------------------------------------

function timeoutflop(){
		catch_setTimeout = !catch_setTimeout;

		if(catch_setTimeout){
				document.getElementById('btimeout').style.backgroundColor='rgb(0,255,0)';
			}
		else{
				document.getElementById('btimeout').style.backgroundColor='rgb(255,0,0)';
			}
}//end timeoutflop
//---------------------------------------------

function promptwindowflop(){
		catch_prompt = !catch_prompt;

		if(catch_prompt){
				document.getElementById('bprompt').style.backgroundColor='rgb(0,255,0)';
			}
		else{
				document.getElementById('bprompt').style.backgroundColor='rgb(255,0,0)';
			}
}//end promptwindowflop
//---------------------------------------------

function confirmwindowflop(){
		catch_confirm = !catch_confirm;

		if(catch_confirm){
```

```
                        document.getElementById('bconfirm').style.backgroundColor='rgb(0,255,0)';
                        }
            else{
                        document.getElementById('bconfirm').style.backgroundColor='rgb(255,0,0)';
                        }
}//end confirmwindowflop
//-----------------------------------------------

function openwindowflop(){
            catch_open = !catch_open;

            if(catch_open){
                        document.getElementById('bopen').style.backgroundColor='rgb(0,255,0)';
                        }
            else{
                        document.getElementById('bopen').style.backgroundColor='rgb(255,0,0)';
                        }
}//end openwindowflop
//-----------------------------------------------

function alertwindowflop(){
            catch_alert = !catch_alert;

            if(catch_alert){
                        document.getElementById('balert').style.backgroundColor='rgb(0,255,0)';
                        }
            else{
                        document.getElementById('balert').style.backgroundColor='rgb(255,0,0)';
                        }
}//end alertwindowflop
//-----------------------------------------------

function popupwindowflop(){
            catch_createPopup = !catch_createPopup;
```

```javascript
        if(catch_createPopup){
                document.getElementById('bpopup').style.backgroundColor='rgb(0,255,0)';
                }
        else{
                document.getElementById('bpopup').style.backgroundColor='rgb(255,0,0)';
                }
}//end popupwindowflop
//-------------------------------------------------

function helpwindowflop(){
        catch_showHelp = !catch_showHelp;

        if(catch_showHelp){
                document.getElementById('bhelp').style.backgroundColor='rgb(0,255,0)';
                }
        else{
                document.getElementById('bhelp').style.backgroundColor='rgb(255,0,0)';
                }
}//end helpwindowflop
//-------------------------------------------------

function modalwindowflop(){
        catch_showModalDialog = !catch_showModalDialog;

        if(catch_showModalDialog){
                document.getElementById('bmodal').style.backgroundColor='rgb(0,255,0)';
                }
        else{
                document.getElementById('bmodal').style.backgroundColor='rgb(255,0,0)';
                }
}//end modalwindowflop
//-------------------------------------------------

function modelesswindowflop(){
        catch_showModelessDialog = !catch_showModelessDialog;
```

```javascript
        if(catch_showModelessDialog){
                document.getElementById('bmodeless').style.backgroundColor='rgb(0,255,0)';
                }
        else{
                document.getElementById('bmodeless').style.backgroundColor='rgb(255,0,0)';
                }
}//end modelesswindowflop
//-----------------------------------------------

function colortrack(eid){
//catch_alert=false;
//alert(eid);
        var xcolor = "";
        var rsi=parseInt(document.getElementById(eid).style.backgroundColor.indexOf("(")) + 1;
        var rei=parseInt(document.getElementById(eid).style.backgroundColor.indexOf(","));
        var rc=parseInt(document.getElementById(eid).style.backgroundColor.substring(rsi,rei));
        var gsi=parseInt(document.getElementById(eid).style.backgroundColor.indexOf(",")) + 1;
        var gei=parseInt(document.getElementById(eid).style.backgroundColor.lastIndexOf(","));
        var gc=parseInt(document.getElementById(eid).style.backgroundColor.substring(gsi,gei));
        if(rc==255 | gc==255){rc=255; gc=255;}
        if(rc>=2 && gc>=2){rc=rc-2; gc=gc-2;}
        xcolor = "rgb(" + rc + "," + gc + "," + "255)";
        document.getElementById(eid).style.backgroundColor = xcolor;
        return;
}//end colortrack
//-----------------------------------------------

function setndisplay(){ //on GUI click
        if(maxlinkcnt==0){return;} //guard
        switch(parseInt(displaycnt)){
                case 1:  displaycnt=2; break;
                case 2:  displaycnt=4; break;
                case 4:  displaycnt=1; break;
                default: displaycnt=1; break;
```

```
}//end switch

switch(displaycnt){
        case 1:
                for(i=bottomofstack; i <= maxiframecount; i++){
                        document.getElementById(eIDArray[i]).style.visibility="hidden";
                        document.getElementById(eIDArray[i]).style.left="0";
                        document.getElementById(eIDArray[i]).style.top="4%";
                        document.getElementById(eIDArray[i]).style.width="102%";
                        document.getElementById(eIDArray[i]).style.height="96%";
                        }
                break;
        case 2:
                for(i=bottomofstack; i<maxiframecount; i=i+2){
                        document.getElementById(eIDArray[i]).style.visibility="hidden";
                        document.getElementById(eIDArray[i]).style.left="0";
                        document.getElementById(eIDArray[i]).style.top="4%";
                        document.getElementById(eIDArray[i]).style.width="50%";
                        document.getElementById(eIDArray[i]).style.height="96%";

                        document.getElementById(eIDArray[i+1]).style.visibility="hidden";
                        document.getElementById(eIDArray[i+1]).style.left="50%";
                        document.getElementById(eIDArray[i+1]).style.top="4%";
                        document.getElementById(eIDArray[i+1]).style.width="50%";
                        document.getElementById(eIDArray[i+1]).style.height="96%";
                        }
                break;
        case 4:
                for(i=bottomofstack; i<maxiframecount; i=i+4){
                        document.getElementById(eIDArray[i]).style.visibility="hidden";
                        document.getElementById(eIDArray[i]).style.left="0";
                        document.getElementById(eIDArray[i]).style.top="4%";
                        document.getElementById(eIDArray[i]).style.width="50%";
                        document.getElementById(eIDArray[i]).style.height="48%";
```

```
                    document.getElementById(eIDArray[i+1]).style.visibility="hidden";
                    document.getElementById(eIDArray[i+1]).style.left="50%";
                    document.getElementById(eIDArray[i+1]).style.top="4%";
                    document.getElementById(eIDArray[i+1]).style.width="50%";
                    document.getElementById(eIDArray[i+1]).style.height="48%";
                    }
            for(i=bottomofstack+2; i<maxiframecount; i=i+4){
                    document.getElementById(eIDArray[i]).style.visibility="hidden";
                    document.getElementById(eIDArray[i]).style.left="0";
                    document.getElementById(eIDArray[i]).style.top="52%";
                    document.getElementById(eIDArray[i]).style.width="50%";
                    document.getElementById(eIDArray[i]).style.height="48%";


                    document.getElementById(eIDArray[i+1]).style.visibility="hidden";
                    document.getElementById(eIDArray[i+1]).style.left="50%";
                    document.getElementById(eIDArray[i+1]).style.top="52%";
                    document.getElementById(eIDArray[i+1]).style.width="50%";
                    document.getElementById(eIDArray[i+1]).style.height="48%";
                    }
            break;
        default:
            for(i=bottomofstack; i <= maxiframecount; i++){
                    document.getElementById(eIDArray[i]).style.left="0";
                    document.getElementById(eIDArray[i]).style.top="4%";
                    document.getElementById(eIDArray[i]).style.width="102%";
                    document.getElementById(eIDArray[i]).style.height="96%";
                    }
            break;
}//end switch

document.getElementById('bndisplay').value="D" + displaycnt;

for(linkcount=bottomofstack; linkcount<=displaycnt; linkcount++){
        displaycurrent();
        }
```

```
        linkcount--; //linkcount set at last visible iFrame on GUI
}//end ndisplay

//---------------------------------------------
//---------------------------------------------
//---------------------------------------------
//Test Functions

var cnt=0;
function test(){
return;

cnt++;
catch_alert=false;

//if(cnt==1){
        linkcount=1;
        links[1]="testcatch.html";
        loadcurrent();
        displaycurrent();
        return;
        //}

return;

        window.status='Test Functions';
        var rv=false;
        //set test state
        testing=true; //turn on alerts in event handlers
        linkcount=1;
        maxlinkcnt=1;
        catch_onblur=false;
        catch_onerrorupdate=false;
        catch_onerror=false;
```

```javascript
        catch_createPopup=false;
        catch_open=false;
        catch_confirm=false;
        catch_setTimeout=false;
        catch_setInterval=false;
        catch_prompt=false;
        catch_showHelp=false;
        catch_showModalDialog=false;
        catch_showModelessDialog=false;
        catch_alert=false; //important to turn off alert check checking when testing

//-----------------------------------------------
        //showModalDialog test

        catch_showModalDialog=true; //set checking on
        alert("catch showModalDialog true");
        var rtnx = showModalDialog("modaltest.htm","my arguments passed","dialogWidth:300px;dialogHeight:300px"); //triggers showModalDialog event
        alert("Return Value from showModalDialog catcher: " + rtnx);

        catch_showModalDialog=false;
        alert("catch showModalDialog false");
        var rtny = showModalDialog("modaltest.htm","my arguments passed","dialogWidth:300px;dialogHeight:300px"); //triggers showModalDialog event
        //if X out, returns null
        //cancel returns "" empty
        //OK returns string; if string is empty, returns empty ""
        alert("Return Value from showModalDialog catcher: " + rtny);

//-----------------------------------------------
        //showModelessDialog test

        catch_showModelessDialog=true; //set checking on
        alert("catch showModelessDialog true");
        var rtnz = showModelessDialog("modaltest.htm","my arguments passed","dialogWidth:300px;dialogHeight:300px"); //triggers showModelessDialog
event
        alert("Return Value from showModelessDialog catcher: " + rtnz);
```

```
        catch_showModelessDialog=false;
        alert("catch showModelessDialog false");
        var rtna = showModelessDialog("modaltest.htm","my arguments passed","dialogWidth:300px;dialogHeight:300px"); //triggers showModelessDialog
event
        //if X out, returns null
        //cancel returns "" empty
        //OK returns string; if string is empty, returns empty ""
        alert("Return Value from showModelessDialog catcher: " + rtna.location.href);


//-----------------------------------------------
        //showhelp test

        catch_showHelp=true; //set checking on
        alert("catch showHelp true");
        window.showHelp("testshowhelp.chm");

        catch_showHelp=false; //set checking off
        alert("catch showHelp false");
        window.showHelp("testshowhelp.chm");


//-----------------------------------------------
        //onblur test

        catch_onblur=true;
        alert(document.getElementById(eIDArray[linkcount]).id + " catch onblur true: ");
        rv=document.getElementById(eIDArray[linkcount]).fireEvent("onblur");
        //onblur should catch and reset focus, so blur again to check if focus has been reset
        rv=document.getElementById(eIDArray[linkcount]).fireEvent("onblur");

        catch_onblur=false;
        alert(document.getElementById(eIDArray[linkcount]).id + " catch onblur false: ");
        rv=document.getElementById(eIDArray[linkcount]).fireEvent("onblur");
        //should have same result second time
        rv=document.getElementById(eIDArray[linkcount]).fireEvent("onblur");
```

```
//------------------------------------------------
        //onerrorupdate test

        catch_onerrorupdate=true;
        alert(document.getElementById(eIDArray[linkcount]).id + " catch onerrorupdate true:");
        rv=document.getElementById(eIDArray[linkcount]).fireEvent("onerrorupdate");
        if(rv != true){Alert("fireEvent onerrorupdate failed");}
        //should have same result second time
        rv=document.getElementById(eIDArray[linkcount]).fireEvent("onerrorupdate");
        if(rv != true){Alert("fireEvent onerrorupdate failed");}

        catch_onerrorupdate=false;
        alert(document.getElementById(eIDArray[linkcount]).id + " catch onerrorupdate false:");
        rv=document.getElementById(eIDArray[linkcount]).fireEvent("onerrorupdate");
        if(rv != true){Alert("fireEvent onerrorupdate failed");}
        //should have same result second time
        rv=document.getElementById(eIDArray[linkcount]).fireEvent("onerrorupdate");
        if(rv != true){Alert("fireEvent onerrorupdate failed");}
//------------------------------------------------
        //alert test

        catch_alert=true; //set checking on
        window.status="catch alert true";
        window.alert("You shouldn't see this if method trapped !"); //triggers alert event; no return value

        catch_alert=false; //set checking off
        window.alert("catch alert false"); //triggers alert event

//------------------------------------------------
        //confirm test

        catch_confirm=true; //set checking on
        alert("catch confirm true");
        var rtn = window.confirm("You shouldn't see this if method trapped !"); //triggers confirm event
```

```
        alert("Return Value from confirm catcher: " + rtn);

        catch_confirm=false;
        alert("catch confirm false");
        rtn = window.confirm("Please confirm this method test"); //triggers confirm event
        alert("Return Value from confirm catcher: " + rtn);
//-----------------------------------------------
        //prompt test

        catch_prompt=true; //set checking on
        alert("catch prompt true");
        var rtn = window.prompt("You shouldn't see this if method trapped !","Prompt not Caught"); //triggers prompt event
        alert("Return Value from prompt catcher: " + rtn);

        catch_prompt=false;
        alert("catch prompt false");
        rtn = window.prompt("prompt method test"); //triggers prompt event
        alert("Return Value from prompt catcher: " + rtn);
//-----------------------------------------------
        //open test

        catch_open=true; //set checking on
        alert("catch open true");
        var rtn = window.open("blank.html",null,"height=400,width=400,status=yes,toolbar=yes,menubar=yes,location=yes"); //triggers open event
        alert("Return Value from open catcher: " + rtn);
        catch_open=false;
        alert("catch open false");
        rtn = window.open("blank.html","newwindowtarget","height=400,width=400,status=yes,toolbar=yes,menubar=yes,location=yes",true); //triggers open
event
        alert("Return Value from open catcher: " + rtn.location.href);

//-----------------------------------------------
        //setTimeout test

        catch_setTimeout=true; //set checking on
```

```
        alert("catch setTimeout true");
        rtn = window.setTimeout("status='setTimout catch true'",2500,"JavaScript"); //triggers setTimeout event
        alert("Return Value from setTimeout catcher: " + rtn);
        catch_setTimeout=false; //set checking off
        alert("catch setTimeout false");
        rtn = window.setTimeout("status='setTimout catch false'",2500,"JavaScript"); //triggers setTimeout event
        alert("Return Value from setTimeout catcher: " + rtn);


//-----------------------------------------------
        //setInterval test

        catch_setInterval=true; //set checking on
        alert("catch setInterval true");
        rtn = window.setInterval("status='setInterval catch true'",5000,"JavaScript"); //triggers setInterval event
        alert("Return Value from setInterval catcher: " + rtn);
        catch_setInterval=false; //set checking off
        alert("catch setInterval false");
        rtn = window.setInterval("status='setInterval catch false'",5000,"JavaScript"); //triggers setInterval event
        alert("Return Value from setInterval catcher: " + rtn);


//-----------------------------------------------
        //createPopup test

        catch_createPopup=true;
        alert("catch createPopup true");
        var Pop1 = window.createPopup(); //triggers createPopup event
        alert("Return Value from createPopup catcher: " + Pop1);
        //popWindow(Pop1); //make popup window: will throw error as Pop1 doesn't exist

        catch_createPopup=false;
        alert("catch createPopup false");
        var Pop2 = window.createPopup(); //triggers createPopup event
        alert("Return Value from createPopup catcher: " + Pop2);
        popWindow(Pop2); //make popup window
```

```
//-------------------------------------------------
        //leave in production state
        testing=false;
        catch_onblur=true;
        catch_onerrorupdate=true;
        catch_onerror=true;
        catch_alert=true;
        catch_createPopup=true;
        catch_open=true;
        catch_confirm=true;
        catch_setTimeout=true;
        catch_setInterval=true;
        catch_showHelp=true;
        catch_showModalDialog=true;
        catch_showModelessDialog=true;
        catch_prompt=true;
}
//-------------------------------------------------

function popWindow(pop){
        var wPopBody = pop.document.body;
        wPopBody.style.backgroundColorColor = "lightyellow";
        wPopBody.style.border = "solid black 1px";
        wPopBody.innerHTML = "Click outside <B>Popup</B> to close window.";
        pop.show(100, 100, 400, 400, document.body);
        return true;
}
//-------------------------------------------------
```

Contents of file engine.java:

```
import java.io.*;
import java.net.*;
import java.awt.*;
import java.applet.*;
import netscape.javascript.JSObject;
import netscape.javascript.JSException;

public class engine extends Applet{
        String usersubject="znone";
        int linkgetcount=0;
        String LinkSetResponses[] = new String[10];
        int LinkSetResponseCount = 0;
        boolean debug = true;

//--------------------------------------------------------------
public void init() {
        System.out.println("initializing...");
        }

//--------------------------------------------------------------
public void start() {
        System.out.println("auto start...");
        }

//--------------------------------------------------------------
public void stop() {
        System.out.println("deallocating resources...");
        System.runFinalization(); //deallocated resources
        System.out.println("garbage collection...");
        System.gc(); //garbage collection
        }

//--------------------------------------------------------------
```

```java
public void destroy() {
        System.out.println("unloading...");
        }


//--------------------------------------------------------------
public void setsubject(String newsubject) { //called from javascript to set the subject
        usersubject = newsubject;
        System.out.println("Setting subject: " + usersubject);
        }


//--------------------------------------------------------------
public void setlinkgetcount(String newlinkcount) { //called from javascript to set the number of links returned
int nlc = Integer.parseInt(newlinkcount);

        //System.out.println("Setting nlc: " + nlc);
        linkgetcount = nlc;
        if(debug){System.out.println("Setting link get count: " + linkgetcount);} //10 is granularity
        }

//--------------------------------------------------------------
public void getlinkset(int whichset) {
String resource, host, file, line, subject="fractals";
String responses[] = new String[10];
int slashPos=0, blankPos=0, gtPos=0, responseCount=0;

try{

if(usersubject.equals("znone")) //no user subject set yet
        return;
else
        subject=usersubject; //set from javascript call

for (int j=0; j<=subject.length()-1; j++){
        if (subject.substring(j,j+1).equals(" ")){
                //System.out.println(subject.substring(0,j));
```

```java
                //System.out.println(subject.substring(j,j+1));
                //System.out.println(subject.substring(j+1,subject.length()));
                subject = subject.substring(0,j) + "%20" + subject.substring(j+1,subject.length());
                if(debug){System.out.println(subject);}
                }
            }

resource="http://www.google.com/search?q=" + subject + "&hl=en&lr=&start=" + whichset + "&sa=N";
if(debug){System.out.println(resource);}

resource = resource.substring(7);// skip http://

slashPos = resource.indexOf('/');   // find host/file separator
file = resource.substring(slashPos);// isolate host and file parts
host = resource.substring(0,slashPos);

http webConnection = new http(host,debug);

if (webConnection != null) {
        BufferedReader bisr = webConnection.get(file,debug);

        while( (line = bisr.readLine()) != null) {// read until end of stream
                if(line.length() >= 18 && line.substring(0,18).equals("<p><a href=http://")){
                        gtPos = line.substring(11).indexOf(">");
                        responses[responseCount]=line.substring(11,gtPos+11);
                        responseCount++;
                }//end if
        }//end while
}//end webconnection check

//set globals
//if(debug){System.out.println("responseCount: "+ responseCount);}
LinkSetResponseCount=responseCount;
LinkSetResponses=responses;
return;
```

```java
}//end try

catch (Exception e) {
        System.runFinalization(); //deallocated resources
        System.gc(); //garbage collection
        } //end catch

}//end getlinkset

//-------------------------------------------------------------
public void enginestart() throws JSException {
JSObject win = JSObject.getWindow(this);
JSObject doc = (JSObject) win.getMember("document");
JSObject loc = (JSObject) doc.getMember("location");
String localhref = (String) loc.getMember("href");  // document.location.href
//JSObject.getWindow (this).eval ("javascript:alert('This is a test of the National Broadcast System!')");
String tempstr;
String maxlinkcount[] = new String[1];
String fsrc[] = new String[1];
String AggregateLinkResponses[] = new String[50];
int AggregateLinkCount = 0;
int lastindex = 0;
int newlastindex = 0;

try{
        //if(debug){System.out.println("Requesting Links:" + linkgetcount);}
        if(linkgetcount>50){
                System.out.println("Requested Link Count too High--50 max: " + linkgetcount);
                return;
                }

        for (int j=0; j<=linkgetcount-10; j=j+10){    //10,20,30,40,50

                getlinkset(j);
```

```
//keep track of total links found on successive calls to getlinkset()

AggregateLinkCount = AggregateLinkCount + LinkSetResponseCount;

//if(debug){System.out.println("AggregateLinkCount: " + AggregateLinkCount);}
//if(debug){System.out.println("LinkSetResponseCount: " + LinkSetResponseCount);}
//if(debug){System.out.println("lastindex: " + lastindex);}
//if(debug){System.out.println("loop finish: " + (lastindex + LinkSetResponseCount - 1));}

for (int i=lastindex; i <= (lastindex + LinkSetResponseCount - 1); i++){
        //if(debug){System.out.println("LSR: " + LinkSetResponses[i-lastindex]);}
        AggregateLinkResponses[i]=LinkSetResponses[i-lastindex]; //index starts at 0; LinkSetResponses index only goes from 0-9 max
        newlastindex++;
        }//end inside for
lastindex = newlastindex;
//if(debug){System.out.println("newlastindex: " + lastindex);}
}//end outside for

tempstr="alan" + AggregateLinkCount; //convert int to string
tempstr=tempstr.substring(4);
maxlinkcount[0]=tempstr;
if(debug){System.out.println("Setting maxlinkcount in JS: " + tempstr);}
win.call("setlinkcount", maxlinkcount); //Send AggregateLinkCount to javascript

for (int k=0; k<=AggregateLinkCount-1; k++){
        if(debug){System.out.println(AggregateLinkResponses[k]);}
        fsrc[0] = AggregateLinkResponses[k];
        win.call("linker", fsrc);
        }//end for

if(debug){System.out.println("\nDone.\n");}
}//end try

catch (Exception e) {
        System.runFinalization(); //deallocated resources
```

```java
        System.gc(); //garbage collection
        } //end catch


 }//end enginestart
}//End Applet


//----------------------------------------------------------------
//----------------------------------------------------------------
class http {

InetAddress WWWhost;

public http (String host, boolean debug) throws UnknownHostException {
        WWWhost = InetAddress.getByName(host); //Set WWWhost
        if(debug){System.out.println("WWW host = " + WWWhost);}
        }

public BufferedReader get (String file,boolean debug) throws IOException { //Returns BufferedReader
        int HTTP_PORT = 80;
        String response;

        Socket httpPipe = new Socket(WWWhost, HTTP_PORT);
        if (httpPipe == null) {return null;}

        InputStream inn  = httpPipe.getInputStream();        // get raw streams
        InputStreamReader isr = new InputStreamReader(inn); //convert bytes to Unicode characters
        BufferedReader bisr = new BufferedReader(isr);    //buffer data to enhance performance

        OutputStream outt = httpPipe.getOutputStream();
        PrintStream out  = new PrintStream(outt);      //convert to character output-- 8 bit ASCII representation
        //Don't use PrintWriter, it converts to 16 bit bytecode representation

        if (inn==null || outt==null) {
                System.out.println("Failed to open streams to socket.");
                return null;
```

```
                }

        // send GET request
        out.println("GET " + file + " HTTP/1.0\n");
        //if(debug){System.out.println("GET " + file + " HTTP/1.0\n");}


        // read response until blank separator line
        while ( (response = bisr.readLine()).length() > 0 ) {
                if(debug){System.out.println(response);}
                }

        return bisr;  // return BufferedReader to allow client to read resource
}//End InputStream
                                                }//End http
```